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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,350	03/31/2004	Sohrab Safai	CMA0451	8822

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EXAMINER

ZARROLI, MICHAEL C

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H-A

**Office Action Summary**

Application No.

10/816,350

Applicant(s)

SAFAI ET AL.

Examiner

Michael C. Zarroli

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/31/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “beam free outer portion” forms the bump must be shown or the feature(s) canceled from the claim 3. **Looking at the figures especially figures 5 and 6 it is clear that the bump is formed on an end of the beam middle.** No new matter should be entered.

Also, the drawings are also objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **bump structural dimensions in the last paragraph of claim 7** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures

must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR

1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The abstract of the disclosure is objected to because it is more than 150 words. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities: On page 6 in the first paragraph reference number 154 is used for two different components.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 3 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

If the beam free outer portion forms the bump then how can the bump contact a flat surface parallel to the frame face? Looking at figure 6 for example, if the bump were on the outer portion it would not contact the flat surface 152-154. The examiner will interpret this claim to recite that the bump is formed on the beam middle as shown on the figures.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Katoh et al.

Katoh discloses a connector that includes a frame (21) with a contact-holding passage (fig. 6 at 22), a contact (1) lying in said passage, and a wire (W) that has a conductor and a wire insulator lying around the conductor except at a bared

conductor end (fig. 1), said contact being formed of a single piece of sheet metal (fig. 3) and having a contact termination end (2, 3) that is terminated to the wire (fig. 2), a contact mating end (4, 5, 6) for contacting to a mating contact device, and a contact middle (10) mounted in the frame, wherein: said termination end of the contact includes a wide groove part (2) with a wide groove middle that has a wide groove bottom that receives the insulation (fig. 2), said wide groove part including a pair of wide groove part wings (fig. 3) projecting from the wide groove part middle and crimped around the wire insulation (fig. 6); said termination end of the contact also includes a narrow groove part (3) having a narrow groove middle that has a narrow groove bottom that is offset from said wide groove bottom (fig. 3), said narrow groove bottom receiving the bared conductor (fig. 2), said narrow groove part having a pair of narrow groove part wings projecting from the narrow groove part middle and crimped around the bare conductor (figures 2 & 3).

***Claim Rejections - 35 USC § 103***

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al.

Katoh discloses that said frame has a frame front face (fig. 6 parallel to 21) and said contact-holding passage (22) opens to said frame front face, said contact mating end forms a resilient end beam (fig. 6 flex) with a beam inner end (5, 6) connected by an inner bend (fig. 2 at 5) to the rest of the contact, with a beam middle (4) extending from said beam inner end (fig. 4) at an incline away from said frame face (figures 6 & 7A), and with a beam free outer portion (h in fig. 1) extending from an outer end of said beam middle (fig. 1) that is opposite said beam

inner end. Katoh disclose that said free beam outer portion extends at an angle to said beam middle, as measured at the inside of said bend (fig. 4).

Katoh does not specifically disclose that said angle is less than  $135^{\circ}$ .

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the angle of Katoh to be less than  $135^{\circ}$ . The motivation for this change is clear to those of ordinary skill and that is to adapt the resiliency to fit a specific application. A suggestion for this change is found in Katoh where the specific angle is not specified and could therefore be less than  $135^{\circ}$ ; the angle in figure 4 could possibly be less than  $135^{\circ}$ .

11. Claim 3 (as best understood) rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al as applied to claim 1 above, and further in view of Ress, Jr.

Katoh discloses that said frame has a frame front face (fig. 6 parallel to 21) and said contact-holding passage (22) opens to said frame front face, said contact mating end forms a resilient end beam (fig. 6 flex) with a beam inner end (5, 6) connected by an inner bend (fig. 2 at 5) to a rest of the contact, with a beam middle (4) extending from said beam inner end (fig. 4) and having an outer part extending at an incline away from said frame face (figures 6 and 7A), and with a beam free



outer portion (h in fig. 1) extending from an outer end of said beam middle (fig. 1) that is opposite said beam inner end.

Katoh does not disclose the bump.

Ress Jr discloses that a beam free outer end and middle form a spherical bump (122), to thereby obtain largely point contact with a flat surface lying parallel (fig. 2) to and adjacent to, said frame front face.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the beam of Katoh with the bump of Ress, Jr. The motivation for this change is common knowledge to those of ordinary skill in the art and that is to provide physical protection and a more secure mating for the contact.

12. Claims 7-8 and, 10-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al in view of Ress, Jr.

Katoh discloses a connector that includes a frame (fig. 5) having a through passage (22) and a frame front face (21), the connector including a contact lying (fig. 6) in the passage, the contact being formed of a piece of sheet metal (fig. 3), said contact having a main contact portion and having a mating end portion (fig. 2) that comprises a resilient end beam (4, 5, 6) with a beam middle inner end connected by an inner bend (5) to said main contact portion, with a beam middle (4)

extending from said beam middle inner end at an incline (fig. 4) and forward of said frame face (figures 5, 6 & 7A), and with a beam free outer portion (fig. 1 near h) having a part lying forward of said frame face and extending from an outer end (fig. 1 at b) of said beam middle that is opposite said beam inner end (fig. 1).

Katoh does not disclose the bump.

Ress discloses beam middle with an outer part that forms a convex bump (122) that is curved about two perpendicular axes (fig. 3) that each extends primarily parallel to said frame front face (fig. 6), with a radius of curvature about each axis being no more than four times the thickness of the sheet metal along said end beam (fig. 2).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the beam of Katoh with the bump of Ress, Jr. The motivation for this change is common knowledge to those of ordinary skill in the art and that is to provide physical protection and a more secure mating for the contact.

Regarding claim 8 Katoh discloses that said free beam outer portion extends at an angle to said beam middle, as measured at the inside of said bend (fig. 4).

However, Katoh does not specifically disclose that the angle is less than  $135^{\circ}$ . At the time the invention was made it would have been obvious to one of ordinary skill in the art to modify the angle of Katoh to be less than  $135^{\circ}$ . The motivation

for this change is clear to those of ordinary skill and that is to adapt the resiliency to fit a specific application. A suggestion for this change is found in Katoh where the specific angle is not specified and could therefore be less than  $135^\circ$ ; the angle in figure 4 could possibly be less than  $135^\circ$ .

Regarding claim 11 Katoh discloses that said beam free outer portion has a tip lying furthest from said outer end of said beam middle, said tip lying in said passage when said end beam is not deflected (fig. 6).

*Allowable Subject Matter*

13. Claims 4-6 and, 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

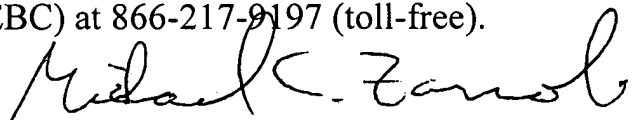
14. The following is a statement of reasons for the indication of allowable subject matter: Claim 4 in combination with claim 1 specifically the housing structure with plurality of tunnels. Claim 9 in combination with claim 7 specifically the offset between the narrow and wide grooves.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 571-272-2101. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, T.C. Patel can be reached on (571) 272-2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Primary Examiner  
Art Unit 2839

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